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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ARNOLD G. SLEZAK

Appeal 2009-000747
Application 09/981,556
Technology Center 3700

Oral Hearing Held: June 25, 2009

Before LINDA E. HORNER, JOHN C. KERINS, and MICHAEL W. O'NEILL, Administrative Patent Judges

ON BEHALF OF THE APPELLANT:

MITCHELL MCCARTHY, Registered Patent Attorney
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The above-entitled matter came on for hearing on Thursday, June 25, 2009, commencing at 10:05 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Leanne M. Krivonak, Notary Public.

PROCEEDINGS

THE CLERK: Good morning. Calendar Number 63, Appeal Number 2009-747, Mr. McCarthy.

MR. McCARTHY: Well, good morning.

JUDGE HORNER: Good morning.

MR. McCARTHY: If it please the Board, I am Mitt McCarthy for Appellant this morning. I've come a long way to be with you and I appreciate the opportunity.

I would certainly be remiss if at the end of this time together I didn't address each and every question that you have; and so, that's certainly my goal. But you if you would indulge me for just a few minutes, I would like to open with just some introductory comments.

What we're talking today about is disk drive technology. This is a current model disk drive and we're talking about this data storage disk, much -- one of these is I'm sure in the computer that you're using right now and the data that you're retrieving and storing is stored to these disks in data tracks.

For instance, you've seen diagrams like this in both this application and the cited reference and what we're talking about today is how to positively position these orange tracks are data servo tracks on that disk.

As a point of trivia, at the time of Kuroba, when Kuroba issued, it brags of the fact that there were 17,000 of these little tracks per inch. Today's -- this unit, today's production, we're up to about 276,000 of these tracks per inch on this data storage disk.

And so we're talking about how to positively locate those tracks for purposes of this little data transfer member that moves in and out and stores and retrieves data from them.

Okay. This diagram, interestingly enough, has purple data servo tracks for a reason that this particular display shows purple lines, too, but purple because there is actually two disks stacked here. There is a red track and a blue track.

What we are covering in this invention is -- I'm sorry, let me grab my claim.

What we have is we have -- this is a -- both the application and the cited reference refers to a servo track writer, a STW, and we're going to write those servo tracks in that machine and then we're going to put them into that disk drive that you just saw. Okay?

And so Claim 1 requires servo tracks that are offset. Well, they're offset with respect to the disk in the direction of this angular reference where the angular reference biases the disk up against this hub that the disks spin against.

So biasing them, offsetting the tracks, and biasing the disk in that direction places the servo tracks concentric with the rotation of this hub, but non-concentric with respect to the disk so that we then take --

JUDGE O'NEILL: Counselor, counselor.

MR. McCARTHY: I'm sorry?

JUDGE O'NEILL: When we're talking about the reference and the axis of angular --

MR. McCARTHY: Angular reference axis.

JUDGE O'NEILL: Axis.

What coordinate system are we dealing with here? Is this --

MR. McCARTHY: When we talk about the cited reference?

JUDGE O'NEILL: No, what you are just making -- talking about with respect to the angular reference axis.

MR. McCARTHY: Well, the claim says --

JUDGE O'NEILL: You need to give me maybe a coordinate system? Are we --

MR. McCARTHY: Right.

JUDGE O'NEILL: -- are we in radial coordinates? What coordinates are we in?

MR. McCARTHY: The claim requires that the -- we have prewritten disks and the tracks are offset in relation to an angular reference axis of each disk.

So in this case, in the example, that I'm showing you we're saying okay, all the disks are biased say to the zero degree mark on the disk. Okay? So they're all biased at that same angular reference.

JUDGE KERINS: And the axis is from the point of the edge of the disk to the center of --

MR. McCARTHY: The center of rotation.

JUDGE KERINS: Okay.

MR. McCARTHY: Right.

JUDGE KERINS: Now how are those tracks offset in relation to that?

MR. McCARTHY: In the direction of -- okay. If those -- if these tracks are concentric with respect to the disk, then they're equal distant to the edge of the disk all the way around.

JUDGE KERINS: Correct.

MR. McCARTHY: So we're going to take those tracks and we're going to offset them in the direction of or in relation to that angular reference. That's the direction that they were offset.

Okay. Now the novelty of this invention is we're going to take the second disk and we're going to then place it to the drive, but we're going to now -- the rest of the claim says that we're going to take that angular reference and we're going to distribute it around the motor, equilaterally -- I'm stumbling on the claim language. But anyway, close enough.

JUDGE KERINS: Symmetrically around out.

MR. McCARTHY: Symmetrically, thank you.

We're going to distribute that angular reference symmetrically around. And as you can see now, the outside of the disks are no longer concentric, but the servo tracks remained concentric, and that's the goal, okay?

Now the cited reference, Kuroba, not only does it not disclose these features in the claim, the evidence in the record shows that it exclusively excludes the present invention because the cited reference says that when you are servo track writing a disk stack --
a parallel media that they must be performed individually according to the groups in which the contact position has changed.

And so Kuroba says that in order to put that configuration together, I have to first run this group of disks, go put it on the disk drives and then I have to run this set of disks because the contact position is going to change. That second disk that I put on there would have to be run in this position, individually.

JUDGE KERINS: Counsel, doesn't Claim 1 in your application only involve this over here (pointing to the right visual aid); it doesn't seem to involve the servo track writing itself?

MR. McCARTHY: It is couched in terms of placing pre-written disks, that's true. Placing pre-written disks to a motor hub --

JUDGE KERINS: So what difference does it make --

MR. McCARTHY: -- but the pre-written disks are limited in terms of characteristics, placing pre-written disks, each characterized by servo tracks that are offset in relation to a common angular reference.

JUDGE KERINS: Common angular reference of each disk?

MR. McCARTHY: Right, right.

Recall this display when I had these both on the servo track writer at the same time, they were both biased along a common angular reference of each disk and each disk maintained that common angular reference as I transferred it over to the motor.

This has been rotated symmetrically about the motor, but it is still the common angular reference with respect to the pre-written servo disk.

JUDGE KERINS: Counsel, in the prior art if your angular reference axis is simply defined by say the point where the outer most track comes closest to the edge of the disk; correct?

MR. McCARTHY: I'm sorry. Say that again.

JUDGE KERINS: The angular reference axis is essentially from a point where the outer most track is closest to the edge of the disk --

MR. McCARTHY: I would disagree with that because the Office took the position that any angular -- any biasing point could be that common angular reference, but recall that the claim language requires that the

pre-written disks are characterized by servo tracks that are offset in relation to that and once you write the tracks that's set. It doesn't change. These tracks remain offset. They don't move. I mean, just because you take this off of the servo track writer and move it around in space and then eventually winds up in a disk drive, you still have the same problem.

The hole in the disk is bigger than the hub and so when you put it down there, you have to bias it in this direction that's defined by the offset between the tracks and the disk.

JUDGE KERINS: Counsel, what difference does it make if you're writing three of them at the same time or writing them individually like the prior art?

MR. McCARTHY: Oh, from a production standpoint, it's a huge improvement to be able to set this machine up one time, see, and --

JUDGE KERINS: But, Counsel, your claim doesn't cover that. Your claim covers this.

MR. McCARTHY: -- what makes this claim valuable, not only is it novel, but it's valuable in that when you write -- when I'm making disk drives with four disks in them in the real world, in this machine, I'm writing servo tracks to 24 disks at a same time because they're all biased in the same direction. Okay?

Now your point is my claim language doesn't require that, but my response is the claim only requires one point of novelty and I don't see the common angular reference that the tracks are offset with respect culminating the reference and disposing the angular reference symmetrically around the hub.

Again, our point is that Kuroba specifically excludes that invention saying that if you're going to do a disk stack over here, you must, not that you might. I mean, Kuroba is not a narrow disclosure. It brags of nine different embodiments and so if, you know, it wanted to do it this way, it could have. But in those nine embodiments, it never addressed it and it explicitly excluded doing them at the same time. It says you must do them individually based on the point of contact.

So if I'm going to do them 180 out of phase, I've got to do this group and then I've got to do this group; and I'm doing them and I'm saying that by doing them together and calling them the common angular reference of each disk, that that's enough to distinguish over Kuroba.

JUDGE KERINS: Counsel, did that -- what you've just described about doing things, help me here. You've described that the prior art talks about that you must write the disks individually; whereas, you are able to write them concurrently, that doesn't seem to have any -- to me any pertinence to the actual method claimed.

MR. McCARTHY: Okay, okay.

Specifically the fact that you have to write them in two different groups means that Kuroba does not have servo tracks that are offset in relation to a common angular reference of each disk.

When I put the first disk on here, there's my angular reference. When I put the second disk, it's now biased in this direction. Those are not common angular referenced axes. They're two different angular reference axes. When I write the servo code, I no longer have the same angular reference, both disks, placing pre-written disks, plural, so I have to have more than one disk so I have at least two with a common angular reference

axis. And then taking those, and taking that angular reference and distributing them symmetrically around a motor hub.

JUDGE O'NEILL: Okay. Go ahead, Counselor.

Let's get back to -- there were some issues between you and the Examiner with respect to the term offset and then in the term of relation to the common angular reference axis of each disk, and it seems that your Brief and everything before us is supposed to kind of turn on your claim construction versus the Examiner's claim construction on this.

MR. McCARTHY: Okay.

JUDGE O'NEILL: So where is the support because there was a back and forth in the briefs before the term offset because it wasn't originally in the spec and it was not in an original claim.

MR. McCARTHY: This is in substance figure 2.

JUDGE O'NEILL: Right.

MR. McCARTHY: And we argued that the Office was just plainly wrong, reversible error to say that there is no offset depicted here. Clearly, the tracks are not concentric with respect to the disk, that they are offset in relation to the disk and that they are offset in a particular direction. They are offset in the direction of the angular reference axis, okay?

JUDGE O'NEILL: Okay. Help me out here. That arrow is supposed to identify the angular -- the common -- or just the angular reference axis and because you have plurality of pre-written disks, it becomes a common angular reference axis.

MR. McCARTHY: I would agree with that, yes. Yes, that if I had two disks and I wrote them at the same time and disk one was a disk orientation and disk two was bias in that angular orientation, if I understand

what you just said, I would agree that that is not two common, angular references, if those two different --

JUDGE. O'NEILL: Right. You don't have a common angular reference axis because of what you just showed me, but when you showed us initially it is considered a common --

MR. McCARTHY: I believe that's within the plain meaning of the language, yes. Yes.

JUDGE KERINS: Counsel, when we have on your example, you have zero degrees and 180 degrees, what is that in reference to? The write heads?

MR. McCARTHY: No, no. That's just in reference to geography, that's just to give you an idea of when I take these disks and they float around and they go down to different places in the factory and they wind up where they go into the disk drive, we're going to align the first angular reference.

Maybe it would be helpful if you thought of the angular reference axis as a laser mark, okay?

JUDGE KERINS: That's what I'm asking.

MR. McCARTHY: I mean, in the earlier days -- I mean, in the beginning of this application it was a mark, but you also see in that -- and I didn't write the application, I inherited the application.

You can see that there's disclosure there where we said oh, and other embodiments we would do it without the mark. Well, that's really the valuable embodiment because if you don't have to put the mark on there and you control it through robotics, that's what they doing today. So that's why the mark went away.

But if you think of terms if that laser scriber on that disk, that I'm going to take that laser scribe and I'm going to align this one.

Say, this is an arbitrary example, I'm going to put that with that scribe mark at zero degrees. And then the next disk I'm going to rotate it to the 180 degrees. The only difference is we're able with the computer intelligence to keep up with that mark without it actually being there.

Okay?

JUDGE O'NEILL: Well, what is zero degrees? I mean, what are we -- you always have to -- when you have -- what is the reference that we're talking about with respect to what zero degrees is? Is that at the initial point of --

MR. McCARTHY: It's with respect to symmetrical. I mean, quite literally.

JUDGE O'NEILL: Symmetry.

MR. McCARTHY: The claim requires that the marks be distributed symmetrically; and so, that doesn't have to be zero maybe. That's just an arbitrary example.

JUDGE O'NEILL: It could be A and B.

MR. McCARTHY: Yes, as long as those were a 180 degrees apart for a two disk stack. Now if it's a three disk stack, it has to be 120 degrees apart.

One, two, three, this has to be symmetrical around the hub and they'll do the very same thing, that the disks will not line up, but the servo tracks will.

JUDGE O'NEILL: Okay.

MR. McCARTHY: And that's the goal.

And, oh, by the way, the advantage of the disks not lining up is you get a balanced assembly. Okay?

JUDGE O'NEILL: I have another question.

During the prosecution you had a -- you supposedly attempted to amend the claim to maybe help out clarifying things?

MR. McCARTHY: Yes, after final amendment?

JUDGE O'NEILL: Right.

And it was not entered?

MR. McCARTHY: Right.

JUDGE O'NEILL: How would you say -- how would that show reversible error within the proposed rejection?

MR. McCARTHY: Well, the point that we were arguing at the time, if I recall, is that the Office's position on final was that Kuroba disclosed the tracks being offset simply because they're round and the angular reference is a radial line and so he took the position that they're offset.

And so I attempted to just simply more particularly recite the fact that they're offset concentrically in relation to a center of each disk to obviate that position.

Okay? I think in hindsight it's not really necessary. I think the position is in fact error because think about it, if something is offset, if these tracks are not offset, then they're concentric with respect to the disk. If they're offset, they're nonconcentric like this picture.

JUDGE KERINS: But, Counsel, they're offset with respect to the center of the disk still. They're not offset in relation to a reference axis.

MR. McCARTHY: But if they're offset with respect to the center of the disk, then they can be offset in any infinite direction.

JUDGE KERINS: But that's more what your proposed amendment goes to rather than how you're having us try to interpret claim one.

MR. McCARTHY: They're offset concentrically in relation to a center of each disk? Okay. Well, the argument back and forth was that -- as I recall, the Office's position was that the non-concentricity was not -- the claim was not particular enough to cover a non-concentricity.

So I would argue the fact that I'm spelling out concentricity and that it has to be in relation to the disk, I think that would narrow it to be saying it has to be non-concentric and in that direction. Okay?

JUDGE KERINS: Which is what you're telling us the claim --

JUDGE O'NEILL: -- the claim says --

JUDGE KERINS: -- says right now.

MR. McCARTHY: I think so. I think it does. I think it's fine the way it is. I was just looking for a way to avoid this hearing, okay?

The other point I would like to make briefly is, you know, the Office's position is that an arc and a line are offset with respect to each other, but in that case it those -- if the arcs of servo tracks are not offset, then what are they? I mean, you don't move them to being non-arcuate. I mean, I can't find the non-offset position of that relationship. Okay?

JUDGE O'NEILL: Is there anything else you would like to address before us with respect to the 103, or if you want to proceed?

MR. McCARTHY: I really like to spend the time on the 102, if you have any other issues. I really think this case stands on the merits of the fact that Kuroba not only doesn't disclose the invention, it explicitly excludes the invention. I think that's important. I think we have to give that the proper deference.

JUDGE O'NEILL: Counsel, once -- let's say, okay, Kuroba requires that you individually write disks and then they assemble them into a disk stack.

MR. McCARTHY: Yes.

JUDGE O'NEILL: Do they end up with the disk stack as you've shown in your display of your invention where --

MR. McCARTHY: It would be speculation.

JUDGE O'NEILL: -- where the concentric tracks continue through the stack, concentric tracks.

MR. McCARTHY: Kuroba never discloses that; so, it would be speculation. So Kuroba discloses a couple of different things. Kuroba disclosures not only what it refers to as where the -- let me find it.

In the case of the data service servo system, the data service servo system is the embedded type of servo which each of these has servo code on it, as opposed to a dedicated servo, and Kuroba discloses that where you would have a disk stack, sure enough, but only one of the disks would have the servo code on it and the others would be -- would not have any servo. So it wouldn't matter where those wound up. You would just be concerned with the servo disk.

In that case, it talks about that embodiment. It also talks about in figure - figs. 8 and in Kuroba column 9, beginning at about line 65, it very explicitly discloses embodiments whereby it takes a stack, it takes a stack and it biases it in this direction. It biases it in this case and then it takes that stack and it moves it and keeps that orientation and moves it over here. So the disks stay exactly as they were written over there, over here. So there is none of that rotating it with -- symmetrically around the motor hub.

You asked me, you know, does it disclose this invention?

No, that's why we're here today.

JUDGE KERINS: I asked if it disclosed whether the tracks would end up being concentric since they were --

MR. McCARTHY: No. No, it does not. It does not.

JUDGE HORNER: Do you have any questions?

JUDGE O'NEILL: I have nothing.

JUDGE HORNER: Okay. Thank you.

MR. McCARTHY: My time is up. Thank you very much for your time this morning. I appreciate the discussion.

(Whereupon, at approximately 10:24 a.m. the proceedings were concluded.)